

UNIVERSITI TEKNOLOGI MARA

**THE EFFECT OF SIMULATED REDUCED VISUAL
ACUITY ON MOBILITY CONTROL**

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Project submitted in fulfilment of the requirement for the degree of

Bachelor of Optometry (Hons.)

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AUTHOR'S DECLARATION

I declare that the work in this research project was carried out in accordance with the regulation of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledge as referred work. This research project has not been submitted to any academic institution or non-academic institution of any degree or qualification.

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ABSTRACT

Purpose: This study investigated the effect of simulated reduced visual acuity level on 3 parameters of mobility control performance. **Method:** The mobility control (MC) performance was measured for 22 young visually normal participants (mean age 23 years; range 21-24 years; 10 men and 12 women) under four visual acuity levels which were logMAR 0.0, logMAR 0.2, logMAR 0.3 and logMAR 0.5. Binocular plus lenses was used to simulate reduced visual acuity level in which incorporated in trial frame. MC performance measures included time to brake react (MC1), reaction of steering (MC2) and XY position (MC3) performance. **Result:** One-way repeated ANOVA reported that the simulated reduced visual acuity was not significantly impaired on MC1, MC2 and MC3 performance by using mobility control ($p > 0.05$). The result was showing p value more than 0.05 in which MC1 ($p = 0.359$), speed limit towards MC1 ($p = 0.814$), distance travelled towards MC1 ($p = 0.361$), MC2 ($p = 0.016$), MC3 ($p = 0.104$), and the speed limit towards MC2 and MC3 ($p = 0.901$). **Conclusion:** MC1, MC2, MC3 performance under reduced visual acuity was not significantly affected on mobility control. There was no significant interaction between reduced visual acuity and mobility control performance from this study and previous study.

Key Words: mobility control, simulated reduced visual acuity, time to brake react, reaction of steering, XY position

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